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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,356	04/08/2004	Prakash Gothoskar	SIO-0108	8115
7590	04/06/2005		EXAMINER SIEK, VUTHE	
Wendy W. Koba PO Box 556 Springtown, PA 18081			ART UNIT 2825	PAPER NUMBER

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,356

Applicant(s)

GOTHOSKAR ET AL.

Examiner

Vuthe Siek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9 and 12 is/are rejected.
- 7) ☒ Claim(s) 6, 10, 11 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/8/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to application 10/820,356 filed on 4/8/2004.

Claims 1-14 remain pending in the application.

Claim Objections

2. Claims 1, 11-12 and 14 are objected to because of the following informalities: claim 1, line 3, "the minimum grid" should be changed to --a minimum grid--. Same changes apply to claims 11-12 and 14. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 7-9 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Garza et al. (6,269,472).

5. As to claims 1 and 12, Garza et al. teach a method and apparatus for correcting a layout design using design rule checkers. The layout design is defined for non-Manhattan elements using a Manhattan grid system (Fig. 4, 8-10). The layout design is defined in grid dimension that is pre-set for a particular layout design and may be selected depending on the granularity desired for a particular integrated circuit design (col. 13-14). As shown in Fig. 8C, in grid dimension, vertex of each of the features (polygons) is lying on the grid dimension where a minimum spacing between adjacent

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vertices of a polygon is defined as distance between a pair of selected grid points (distance between 866 and 868 is defined as grid spacing) (col. 9). Also Fig. 8C shown superimposing a non-Manhattan element over the Manhattan grid system and fitting a plurality of polygons within the defined space of the non-Manhattan element by locating at least one vertex of each polygon on the periphery of the non-Manhattan element. Note that the non-Manhattan element is the curve fitting for the polygons as shown for example in Fig. 8A.

6. As to claims 2-5, Garza et al. teach the selected pair of grid points are adjacent grid points (Fig. 8C); the non-Manhattan element is a curve line and a plurality of inscribed and circumscribed rectangles are used to define the curve, the non-Manhattan element is an optical element (Fig. 4, 8A, 8C).

7. As to claim 7-9, Garza et al. teach a rectangle is used as the polygon as the polygon and the step includes defining minimum rectangle width as the distance between the pair of selected grid point (Fig. 8A, 8C); where the geometry of the non-Manhattan element is determined by using as an input an equation of a predetermined geometrical shape (Col. 8); a plurality of vertices of at least one polygon are located one the periphery of non-Manhattan element (Fig. 8A, 8C).

Allowable Subject Matter

8. Claims 6, 10 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not teach or

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fairly suggest a diffractive optical element is superimposed over the Manhattan grid system.

9. Claims 11 and 14 would be allowable if rewritten to overcome the claim objections set forth in this Office action. The prior art does not teach of fairly suggest mainly the layout design by generating a mask including simultaneously both layout optical and electronic elements on a Manhattan grid system.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vuthe Siek whose telephone number is (571) 272-1906. The examiner can normally be reached on Increase Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vuthe Siek


VUTHE SIEK
PRIMARY EXAMINER